

NASA Trace Gas Products for Air Quality Applications

- NASA Remote Sensing Training
September 2014

ARSET

Applied Remote Sensing Training

A project of NASA Applied Sciences



Access to OMI NO₂ Images and Data

GIOVANNI

<http://disc.sci.gsfc.nasa.gov/giovanni>

L2G, Level 3 (OMNO2d)

HDF, ASCII KML for Google Earth

Subsetting available

AVDC (Aura Validation Data Center)

<http://avdc.gsfc.nasa.gov/>

Level 3 (OMNO2d)

HDF, ASCII, KML formats

Daily and Monthly Data and Images

GIOVANNI – Visualization/Exploratory Tool

<http://disc.sci.gsfc.nasa.gov/giovanni>

GES DISC Home

Data Services

Science Portals

Mission Portals

Analyze Data with Giovanni

Search for Data with Mirador

Simple Subset Wizard

Data Cookbook

More...

Giovanni - The Bridge Between Data and Science

» OVERVIEW

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- + Who Uses Giovanni?
- + Giovanni Parameters
- + Giovanni Plot Types
- + How to Use Giovanni
- + How to Acknowledge Giovanni
- + Acknowledgements

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Giovanni - Interactive Visualization and Analysis

Contributors: [tonyr](#), [rchowdhury](#)

Giovanni - Interactive Visualization and Analysis - GES DISC: Goddard Earth Sciences, Data and Information Services Center

Giovanni-4 Now Available

New! Please try out [Giovanni-4](#), the next generation of Giovanni, with dramatically improved performance and interactive plotting and mapping. (Currently, only select Aerosols, Hydrology and Turbulent Flux data are available in Giovanni-4, with more on the way.)

Giovanni Portals

Giovanni Parameter List

▼ Atmospheric Portals (Scroll down to view complete list)

- [Aqua/AIRS Global: Monthly](#)
- [Terra and Aqua MODIS: Daily](#)
- [Terra and Aqua MODIS: Monthly](#)
- [Aura OMI Level 3](#)
- [Aura OMI Level 2G](#)
- [Aura Microwave Limb Sounder \(MLS\)](#)
- [Aura High Resolution Dynamics Limb Sounder \(HIRDLS\)](#)
- [Aura Tropospheric Emission Spectrometer \(TES\)](#)
- [Earth Probe and Nimbus-7 TOMS](#)
- [Upper Atmosphere Research Satellite \(UARS\) Halogen Occultation Experiment \(HALOE\)](#)

GIOVANNI NEWS

Giovanni Image Hall of Fame
issue of The Giovanni News is
online

Jan 10, 2014

Several members of the GES
DISC attend ESIP Federation
Winter Meeting 2014

Jan 07, 2014

December 2013 AGU special
issue of The Giovanni News is
online

Dec 19, 2013

GES DISC participates in AGU
Fall Meeting 2013

Dec 06, 2013

October-November 2013 issue of
The Giovanni News is online

Nov 22, 2013

MODIS observes progressive
development of air pollution crisis
in China

Oct 25, 2013

Staff from the GES DISC
participate in NSF EarthCube
Workshop

Oct 21, 2013

Newest additions to Giovanni
publications list

Sep 30, 2013

Giovanni Portals
Giovanni Parameter List

Atmospheric Portals (Scroll down to view complete list)

- [Aqua/AIRS Global: Daily](#)
- [Aqua/AIRS Global: Monthly](#)
- [Terra and Aqua MODIS: Daily](#)
- [Terra and Aqua MODIS: Monthly](#)
- [Aura OMI Level 3](#)
- [Aura OMI Level 2G](#)
- [Aura Microwave Limb Sounder \(MLS\)](#)
- [Aura High Resolution Dynamics Limb Sounder \(HIRDLS\)](#)
- [Aura Tropospheric Emission Spectrometer \(TES\)](#)
- [Earth Probe and Nimbus-7 TOMS](#)
- [Upper Atmosphere Research Satellite \(UARS\) Halogen Occultation Experiment \(HALOE\)](#)

Application and Education Portal (Scroll down to view complete list)

Meteorological Portals

Ocean Portals

Hydrology Portals (Scroll down to view complete list)



Aura OMI Level 3

•Subset using bounding box

Operations Notification

- Many OMI products have been reprocessed recently. For details, please see [OMI Data Products page](#).
- For producing an online custom Level-3 product with science-team-recommended screening criteria, please go to the [OMI L2G Giovanni portal](#).

OMI/Aura Online Visualization and Analysis
Daily Level 3 Global Gridded Products

Home
Remove All

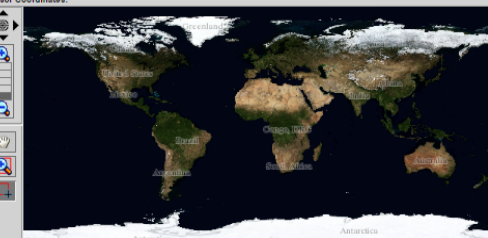
OMI data from Jan 24, 2009 should be used with caution ([read more](#)).

his interface is for visualization and analysis of the EOS Aura OMI version 3 daily level 3 global 0.25° gridded data (OMTO3e: Ozone based on TOMS algorithm, OMDAO3e: Ozone based on DOAS algorithm, OMNO2e: Nitrogen Dioxide, OMSO2e: Sulfur Dioxide, MAEROe: Multi-Wavelength Aerosols), as well as 1.0° gridded data (OMTO3d: Ozone based on TOMS algorithm, OMAERUVd: Aerosols, OMUVBd: Surface UV). Other products will be added as they become available.

- The OMI L2G data are available from our beta Giovanni version.

Select:

- Spatial

Cursor Coordinates:


Area of Interest: West: -180 North: 90 South: -90 East: 180 Update Map

OMI Aerosol Wavelength
Select a wavelength value from the pulldown list. This option is only enabled if a parameter from the OMAEROe product is selected! Otherwise this option is greyed-out and not available.
Wavelength: ▼

NOTE: Selected 3D parameters must have the same 3rd dimension (e.g., pressure, altitude, wavelength, etc.) units in order to enable the vertical level menu.

Daily 0.25 x 0.25 Degree Grid

<input type="checkbox"/> OMAEROe(2004/10/01 - 2014/09/17)			
Parameter	Date Product Info		
<input type="checkbox"/> Absorbing Aerosol Optical Thickness	OMAEROe.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Optical Thickness	OMAEROe.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Single Scattering Albedo	OMAEROe.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMDAO3e(2004/10/01 - 2014/09/17)			
Parameter	Date Product Info		
<input type="checkbox"/> Column Amount Ozone	OMDAO3e.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMT03e(2004/10/01 - 2014/09/17)			
Parameter	Date Product Info		
<input type="checkbox"/> Column Amount Ozone	OMT03e.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Radiative Cloud Fraction	OMT03e.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMSO2e(2004/10/01 - 2014/09/17)			
Parameter	Date Product Info		
<input type="checkbox"/> Vertical Column Amount SO2 (PBL)	OMSO2e.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMNO2d(2004/10/01 - 2014/09/17)			
Parameter	Date Product Info		
<input checked="" type="checkbox"/> NO2 Total Column Amount	OMNO2d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> NO2 Total Column Amount (Cloud-Screened at 30%)	OMNO2d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> NO2 Tropospheric Column Amount	OMNO2d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> NO2 Tropospheric Column Amount	OMNO2d.003	Aura OMI	2004/10/01 - 2014/09/17

SDS Name: ColumnAmountNO2CloudScreened, Structure: , Units: 10^15 molec/cm^2

Daily 1.00 x 1.00 Degree Grid

<input type="checkbox"/> OMAERUVd(2004/10/01 - 2014/09/17)			
Parameter	Date Product Info		
<input type="checkbox"/> Aerosol Absorption Optical Depth at 388 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Absorption Optical Depth at 500 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Extinction Optical Depth at 388 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Extinction Optical Depth at 500 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Single Scattering Albedo at 388 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Single Scattering Albedo at 500 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMT03d(2004/10/01 - 2014/09/17)			
Parameter	Date Product Info		
<input type="checkbox"/> Column Amount Ozone	OMT03d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Radiative Cloud Fraction	OMT03d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> UV Aerosol Index	OMT03d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMUVBd(2004/10/01 - 2014/09/14)			
Parameter	Date Product Info		
<input type="checkbox"/> Clear Sky Erythemal UV Daily Dose	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Erythemal UV Daily Dose	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Local Noon Time Clear Sky Erythemal UV Dose Rate	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Local Noon Time Clear Sky Surface UV Irradiance at 305 nm	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Local Noon Time Clear Sky Surface UV Irradiance at 310 nm	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Local Noon Time Clear Sky Surface UV Irradiance at 324 nm	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Local Noon Time Clear Sky Surface UV Irradiance at 380 nm	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14

Temporal

Begin Date Year 2014 ▼ Month Sep ▼ Day 17 ▼ (Date Begin: 01 Oct 2004)

End Date Year 2014 ▼ Month Sep ▼ Day 17 ▼ (Date End: 17 Sep 2014)

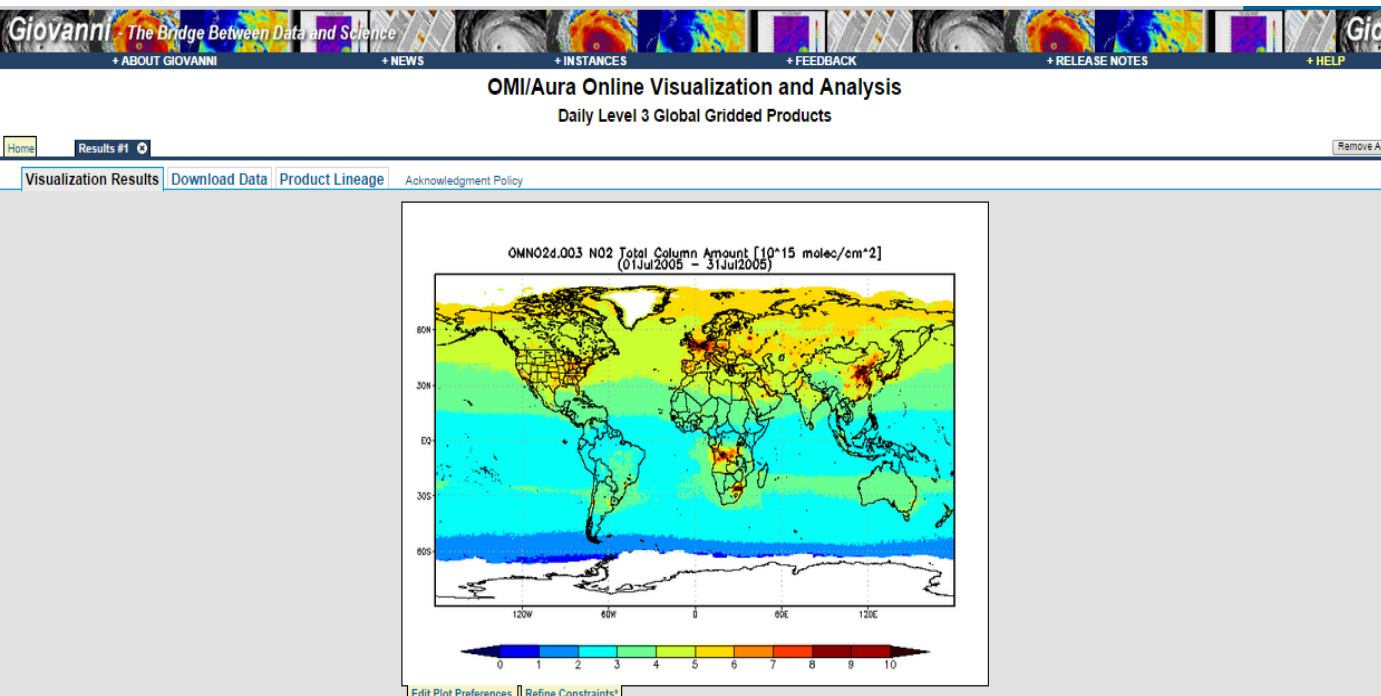
[A link to oml data outage page](#)

Select Visualization:

Lat-Lon map, Time-averaged ▼ [Edit Preferences](#) [Visualization Help](#)

Parameter List from Aura OMI

- NO2 total column amount
- Choose date range and Visualization type



* Applies to the whole results set (all plots)

Visualization Results
showing areas of high NO₂

You can submit refinements

- Geographically
- Parameter min, max

Visualization Results Download Data Product Lineage Acknowledgment Policy

Area of Interest: West: -12.200 North: 60.112 South: 35.712 East: 14.200 Update Map

Temporal

Begin Date Year 2005 Month Jul Day 1 (Date Begin: 01 Oct 2004)
End Date Year 2005 Month Jul Day 31 (Date End: 17 Sep 2014)

link to omi data outage page

Preferences [Top]

Plot Preferences

Image Width	700	Set the width of the plot image (in pixels)
Image Height	600	Set the height of the plot image (in pixels)
Color Bar	Mode: <input type="radio"/> Dynamic <input checked="" type="radio"/> Pre-Defined <input type="radio"/> Custom Palette: Rainbow Min Value: Overrides ALL parameter min/max values. Max Value: Overrides ALL parameter min/max values.	Select color map mode, select a palette, or, if shown in this preference bloc, specify min and max parameter value to map. The 'Palette' and Min/Max Value options are enabled only when the 'Custom' mode is selected. Values entered for 'Min Value' and 'Max Value' will override parameter-specific values for parameter min and max, respectively.
Projection	Equidistant Cylindrical	Select a projection for the plot(s)
Smooth Flag	<input checked="" type="radio"/> Yes <input type="radio"/> No	Determine whether the pixel interpolation should use a smoothing routine
Decoration Flag	<input checked="" type="radio"/> Yes <input type="radio"/> No	Determine whether decorations (axes reticles, labels, etc.) are displayed for the resultant images
NO2 Total Column Amount (OMNO2d.003)	Parameter Min: 0.0 Parameter Max: 10.0e+15	Set parameter preference values

Return to plot

[Home](#)
[Results #1](#)
[Remove All](#)

[Visualization Results](#)
[Download Data](#)
[Product Lineage](#)
[Acknowledgment Policy](#)

Download source data products and data products derived from Giovanni processing stages. For simplicity purposes, only the initial retrieval and final rendering phases are currently accessible for downloading. Supported download formats are HDF, NetCDF(NCD), ASCII, and KMZ (ASCII is available only when the array size is within about half-million points). To **download multiple files** at once, select the desired files (from any section) by clicking on their associated checkboxes, and then click 'Download in Batch'. **Note:** that 'n/a' means that a file size or other column value is not available; 'saa' means that a file is exactly the same as the previous one in the list. Also, not all services and data products support all download file formats.

Initial Data Retrieval

Data Product	Start Time	File Size (b)	Download Files
OMNO2d.003 (ColumnAmountNO2)	2005-07-02T00:00:00Z	9501458	<input type="checkbox"/> HDF <input type="checkbox"/> NCD
OMNO2d.003 (ColumnAmountNO2)	2005-07-03T00:00:00Z	9470814	<input type="checkbox"/> HDF <input type="checkbox"/> NCD
OMNO2d.003 (ColumnAmountNO2)	2005-07-04T00:00:00Z	9408461	<input type="checkbox"/> HDF <input type="checkbox"/> NCD
OMNO2d.003 (ColumnAmountNO2)	2005-07-05T00:00:00Z	9531217	<input type="checkbox"/> HDF <input type="checkbox"/> NCD
OMNO2d.003 (ColumnAmountNO2)	2005-07-06T00:00:00Z	9590566	<input type="checkbox"/> HDF <input type="checkbox"/> NCD
OMNO2d.003 (ColumnAmountNO2)	2005-07-07T00:00:00Z	8852492	<input type="checkbox"/> HDF <input type="checkbox"/> NCD
OMNO2d.003 (ColumnAmountNO2)	2005-07-08T00:00:00Z	9605229	<input type="checkbox"/> HDF <input type="checkbox"/> NCD

Two Dimensional Map Plot

Input Files	Start Time	File Size (b)	Download Files
OMNO2d.003 (ColumnAmountNO2)	2005-07-01T00:00:00Z	4152609	<input type="checkbox"/> HDF <input type="checkbox"/> NCD

Output Files	File Size (b)	Download Files
ColumnAmountNO2.OMNO2d.003.AreaMap.2005-07-01.gif	22993	<input type="checkbox"/> KMZ

Responsible NASA Official: Steven J. Kempler@nasa.gov
 Web Curator: M. Hegde (gsfo-giovanni-disc@lists.nasa.gov)

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Data Download tab,

- Available in HDF, NetCDF, KMZ, gif
- If Subsetted, that data is downloaded under the Two Dimensional Map Plot section

AVDC - Aura Validation Data Center

<http://avdc.gsfc.nasa.gov/index.php?site=705441739>



The screenshot shows the top section of the AVDC website. At the top left is the NASA logo and the text "GODDARD SPACE FLIGHT CENTER". To the right, it says "You are not logged in." with links for "Login" and "Sign up". Below this is a large banner image featuring a satellite, a globe, and the word "Aura" in large red letters, with "validation data center" in yellow below it. At the bottom of the banner is a navigation bar with six tabs: "OVERVIEW", "DATA", "TOOLS", "DOCUMENTATION", "LINKS", and "EVENTS". Below the navigation bar, the text "DATA/ OMNO2 L3 0.25X0.25 DEG" is displayed in blue.

NASA GODDARD SPACE FLIGHT CENTER

You are not logged in.
[Login](#) [Sign up](#)

Aura
validation data center

OVERVIEW DATA TOOLS DOCUMENTATION LINKS EVENTS

[DATA/ OMNO2 L3 0.25X0.25 DEG](#)

Use OMNO2d L3 product

- 0.25 Gridded, cloud screened (Reflectivity < 0.3), images and data
- Data in HDF5, ASCII, KML formats
- Daily and Monthly data/images
- Total and Tropospheric data/images

Daily 0.25 x 0.25 Degree Grid

Parameter	Data Product Info	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMAEROe(2004/10/01 - 2014/09/17)			
<input type="checkbox"/> Absorbing Aerosol Optical Thickness	OMAEROe.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Optical Thickness	OMAEROe.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Single Scattering Albedo	OMAEROe.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMDOAO3e(2004/10/01 - 2014/09/17)			
<input type="checkbox"/> Column Amount Ozone	OMDOAO3e.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMT03e(2004/10/01 - 2014/09/17)			
<input type="checkbox"/> Column Amount Ozone	OMT03e.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Radiative Cloud Fraction	OMT03e.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OM SO2e(2004/10/01 - 2014/09/17)			
<input type="checkbox"/> Vertical Column Amount SO2 (PBL)	OMSO2e.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMNO2d(2004/10/01 - 2014/09/17)			
<input checked="" type="checkbox"/> NO2 Total Column Amount	OMNO2d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> NO2 Total Column Amount (Cloud-Screened at 30%)	OMNO2d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> NO2 Tropospheric Column Amount	OMNO2d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> NO2 Tropospheric Column Amount	OMNO2d.003	Aura OMI	2004/10/01 - 2014/09/17

SDS Name: ColumnAmountNO2CloudScreened, Structure: , Units: 10^15 molec/cm^2

Daily 1.00 x 1.00 Degree Grid

Parameter	Data Product Info	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMAERUVd(2004/10/01 - 2014/09/17)			
<input type="checkbox"/> Aerosol Absorption Optical Depth at 388 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Absorption Optical Depth at 500 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Extinction Optical Depth at 388 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Extinction Optical Depth at 500 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Single Scattering Albedo at 388 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Aerosol Single Scattering Albedo at 500 nm	OMAERUVd.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMT03d(2004/10/01 - 2014/09/17)			
<input type="checkbox"/> Column Amount Ozone	OMT03d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> Radiative Cloud Fraction	OMT03d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> UV Aerosol Index	OMT03d.003	Aura OMI	2004/10/01 - 2014/09/17
<input type="checkbox"/> OMUVBd(2004/10/01 - 2014/09/14)			
<input type="checkbox"/> Clear Sky Erythral UV Daily Dose	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Erythral UV Daily Dose	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Local Noon Time Clear Sky Erythral UV Dose Rate	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Local Noon Time Clear Sky Surface UV Irradiance at 305 nm	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Local Noon Time Clear Sky Surface UV Irradiance at 310 nm	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14
<input type="checkbox"/> Local Noon Time Clear Sky Surface UV Irradiance at 324 nm	OMUVBd.003	Aura OMI	2004/10/01 - 2014/09/14

Temporal

Begin Date Year 2014 Month Sep Day 17 (Date Begin: 01 Oct 2004)

End Date Year 2014 Month Sep Day 17 (Date End: 17 Sep 2014)

[A link to oml data outage page](#)

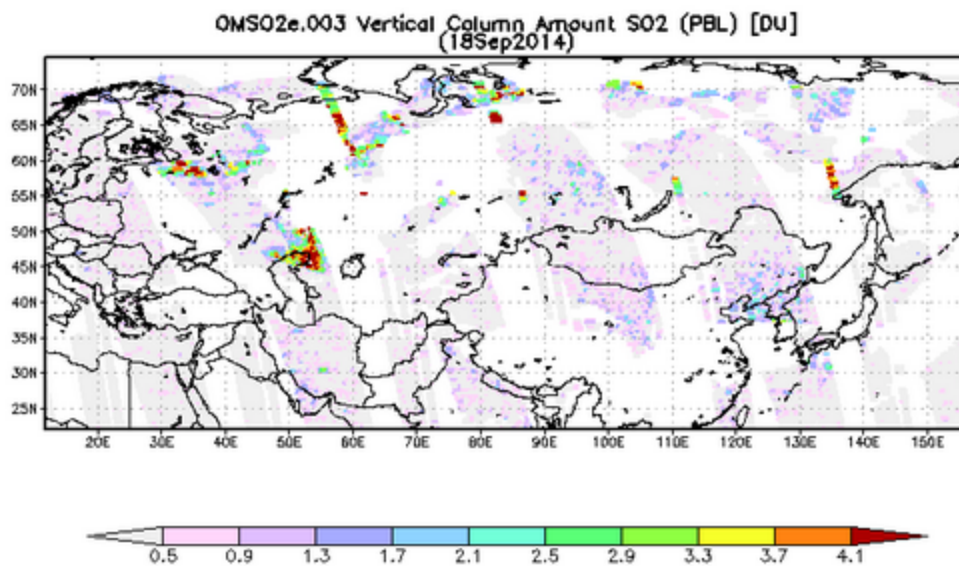
Select Visualization:

Lat-Lon map, Time-averaged [Edit Preferences](#) [Visualization Help](#)

Parameter List form Aura OMI

Vertical Column Amount SO2 (PBL), short name: OMSO2e.003

- Choose date range and Visualization type



Home Result #1 Result #2 Results #3

Remove All

Visualization Results Download Data Product Lineage Acknowledgment Policy

Download source data products and data products derived from Giovanni processing stages. For simplicity purposes, only the initial retrieval and final rendering phases are currently accessible for downloading. Supported download formats are HDF, NetCDF(NCD), ASCII, and KMZ (ASCII is available only when the array size is within about half-million points). To **download multiple files** at once, select the desired files (from any section) by clicking on their associated checkboxes, and then click 'Download in Batch'. **Note:** that 'n/a' means that a file size or other column value is not available; 'saa' means that a file is exactly the same as the previous one in the list. Also, not all services and data products support all download file formats.

Initial Data Retrieval				Download in Batch
Data Product		Start Time	File Size (b)	Download Files
OMSO2e.003 (ColumnAmountSO2_PBL)		2014-09-18T00:00:00Z	1499490	<input type="checkbox"/> <input type="checkbox"/>
Two Dimensional Map Plot		Start Time	File Size (b)	Download Files
Input Files		2014-09-18T00:00:00Z	206566	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Output Files			27688	<input type="checkbox"/>
ColumnAmountSO2_PBL.OMSO2e.003.AreaMap.2014-09-18.gif				

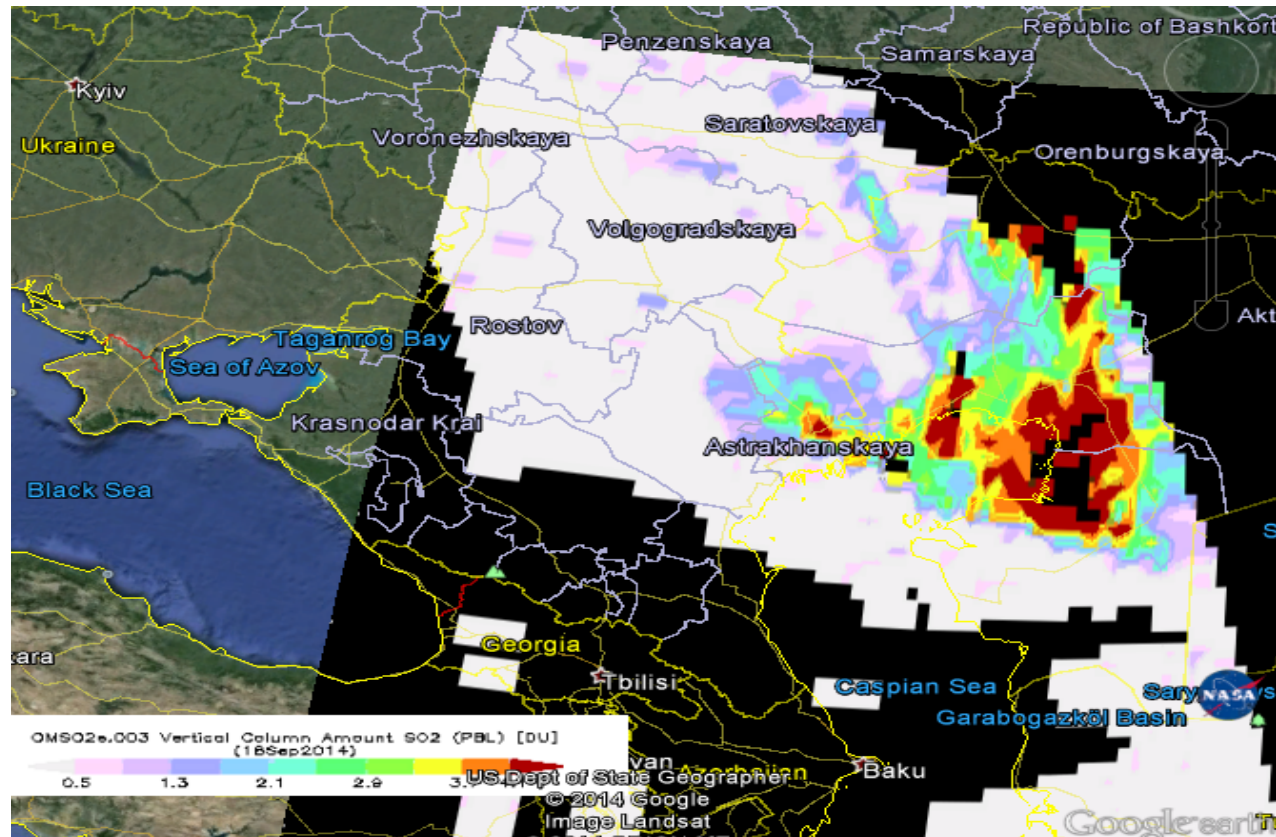


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Web Curator: M. Hegde igsto-giovanni-disc@lists.nasa.gov

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- Visualization Results showing areas of high SO2
- Data download, HDF, NetCDF, KMZ, gif



- KMZ in Google Earth, Kazakhstan
- High SO2, possible industrial activity

OMI NO2 Data and Imagery

Type/Source	File/Product Name	Product Level	Format	Resolution	Source/Link
Standard Product	OMN02G	L2	HDF5	0.25 x 0.25 Degrees (Not cloud screened)	Goddard DISC
Standard Product	OMNO2e	3	HDF5	0.25 x 0.25 Degrees (cloud screened)	Goddard DISC
Near Real Time	DOMINO	L2	HDF5 Images: gif	13x24km-nadir 13x128 km (swath edge)	DUTCH KNMI Temis Site
Aura Validation Data Center	NO2TropCS30	L3	HDF, ASCII Images: KML, jpg	0.05 x 0.05 Degrees (cloud screened)	Aura AVDC
Aura Validation Data Center	NO2TropCS30	L3	HDF, ASCII Images: KML, jpg	0.25 x 0.25 Degrees (cloud screened)	Aura AVDC
Giovanni subset data	OMN02e	L3	HDF, ASCII, NetCDF Images: KML, jpg	0.25 x 0.25 Degrees (cloud screened)	Giovanni Site
Berkeley High Resolution NO2 Product	U.S. product only	L2	HDF, ASCII	0.05 x 0.05 Degrees	BEHR site

[FAQ's](#)

[up](#)

[OMI SO2 Data](#)

OMI SO2 Data

Type/Source	File/Product Name	Product Level	Format	Resolution	Source/Link
Standard Product	OMSO2G, PBL, TRL, TRM	L2G	HDF5	0.25 x 0.25 Degrees (Not cloud screened)	Goddard DISC
Standard Product	OMSO2E, PBL	L3	HDF5, NetCDF	0.25 x 0.25 Degrees (cloud screened)	Goddard DISC
Giovanni subset data	OMSO2e	L3	HDF, NETCDF, ASCII	0.25 x 0.25 Degrees (cloud screened)	Giovanni Site

[OMI NO2 Data and Imagery](#)

[up](#)

[OMI SO2 Images](#)

Carbon Monoxide Data Access

GIOVANNI

<http://disc.sci.gsfc.nasa.gov/giovanni>

AIRS Near-Real Time (NRT) Products and Images (PNG, GeoTIFF, KMZ)

<http://disc.sci.gsfc.nasa.gov/nrt/data-holdings/airs-nrt-products/>

AIRS Level 2 Data Products

http://disc.sci.gsfc.nasa.gov/AIRS/data-holdings/by-data-product/data_products.shtml

EOSDISC Reverb global search tool: <http://reverb.echo.nasa.gov>

Mirador Search/Get data: <http://mirador.gsfc.nasa.gov>

AIRS Homepage: <http://airs.jpl.nasa.gov/>

MOPITT Homepage: <http://www.acd.ucar.edu/mopitt/>

MOPITT Daily/Monthly images:

<http://www.acd.ucar.edu/mopitt/visualize.shtml>

<http://mopfl.acd.ucar.edu:8080/webviewV4/selectmopittfile>

GIOVANNI – Visualization/Exploratory Tool

<http://disc.sci.gsfc.nasa.gov/giovanni>



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- + How to Acknowledge Giovanni
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Additional Features

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- + Publications
- + Newsletters
- + Feedback
- + FAQ

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Giovanni - Interactive Visualization and Analysis

Contributors: [tonyr](#), [rchowdhury](#)

Giovanni - Interactive Visualization and Analysis - GES DISC: Goddard Earth Sciences, Data and Information Services Center

Giovanni-4 Now Available

New! Please try out [Giovanni-4](#), the next generation of Giovanni, with dramatically improved performance and interactive plotting and mapping. (Currently, only select Aerosols, Hydrology and Turbulent Flux data are available in Giovanni-4, with more on the way.)

Giovanni Portals

Giovanni Parameter List

▼ Atmospheric Portals (Scroll down to view complete list)

- [Aqua/AIRS Global: Monthly](#)
- [Terra and Aqua MODIS: Daily](#)
- [Terra and Aqua MODIS: Monthly](#)
- [Aura OMI Level 3](#)
- [Aura OMI Level 2G](#)
- [Aura Microwave Limb Sounder \(MLS\)](#)
- [Aura High Resolution Dynamics Limb Sounder \(HIRDLS\)](#)
- [Aura Tropospheric Emission Spectrometer \(TES\)](#)
- [Earth Probe and Nimbus-7 TOMS](#)
- [Upper Atmosphere Research Satellite \(UARS\) Halogen Occultation Experiment \(HALOE\)](#)

GIOVANNI NEWS

Giovanni Image Hall of Fame
issue of The Giovanni News is
online

Jan 10, 2014

Several members of the GES
DISC attend ESIP Federation
Winter Meeting 2014

Jan 07, 2014

December 2013 AGU special
issue of The Giovanni News is
online

Dec 19, 2013

GES DISC participates in AGU
Fall Meeting 2013

Dec 06, 2013

October-November 2013 issue of
The Giovanni News is online

Nov 22, 2013

MODIS observes progressive
development of air pollution crisis
in China

Oct 25, 2013

Staff from the GES DISC
participate in NSF EarthCube
Workshop

Oct 21, 2013

Newest additions to Giovanni
publications list

Sep 30, 2013

Parameters

Display: ☒ Data Product Info ☐ Units ☐ Parameters with > 2 Dimensions

Parameter	Standard
<input type="checkbox"/> AIRX3STD.005(2002/08/31 - 2013/02/28)	
<input type="checkbox"/> Tropopause height_descending (TropHeight_D)	Aqua - AIRS standard
<input type="checkbox"/> Tropopause pressure_descending (TropPres_D)	Aqua - AIRS standard
<input type="checkbox"/> Tropopause pressure_descending (TropPres_D)	Aqua - AIRS standard
<input type="checkbox"/> Tropopause temperature_descending (TropTemp_D)	Aqua - AIRS standard
<input checked="" type="checkbox"/> total column CO_ascending (CO_total_column_A)	Aqua - AIRS standard
<input type="checkbox"/> total column CO_descending (CO_total_column_D)	Aqua - AIRS standard

Temporal

Begin Date Year 2013 Month Feb Day 28 (Date Begin: 31 Aug 2002)

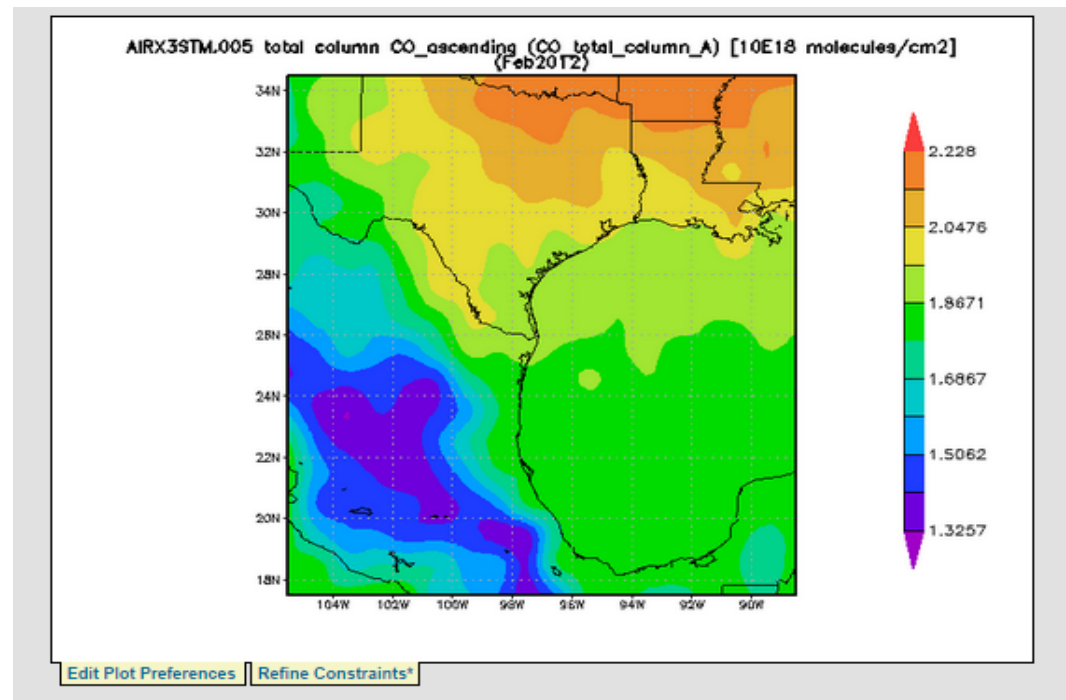
End Date Year 2013 Month Feb Day 28 (Date End: 28 Feb 2013)

Plot Visualization:

Alt-Lon map, Time-averaged [Edit Preferences](#) [Visualization Help](#)

[Generate Visualization](#) [Reset](#)

Total column CO_ascending (CO_total_column_A)





MOPITT V6 Level 2 and 3 products include:

Homepage: <http://www2.acd.ucar.edu/mopitt>

A **TIR-only** product, similar to the MOPITT V4 product and V5 TIR-only product. *Example filename:* MOP02T-20010101-L2V16.2.1.he5.

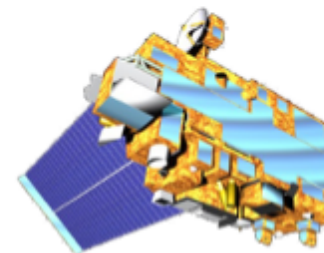
A **NIR-only** product, similar to the MOPITT V5 NIR-only product. This dataset is produced only for daytime observations over land. This product exhibits relatively large random errors and may require significant spatial and/or temporal averaging. *Example filename:* MOP02N-20010101-L2V16.2.2.he5.

A **TIR/NIR** product, featuring the maximum sensitivity to near-surface CO. In this product, information from the NIR channels is exploited only in daytime observations over land. This product exhibits relatively large random errors and may require significant spatial and/or temporal averaging. *Example filename:* MOP02J-20010101-L2V16.2.3.he5.

MEASUREMENTS OF POLLUTION IN THE TROPOSPHERE (MOPITT)

THE MOPITT MISSION

MOPITT is an instrument flying on NASA's Earth Observing System **Terra** spacecraft, measuring tropospheric carbon monoxide (CO) on the global scale. MOPITT measurements enable scientists to analyze the distribution, transport, sources and sinks of CO, a trace gas produced by methane oxidation, fossil fuel consumption and biomass burning. MOPITT has been operational since March 2000.



MOPITT PRODUCT AVAILABILITY

MOPITT Version 6 Level 2 and Level 3 products are now available for the entire MOPITT mission. Generally, V6 Level 2 and Level 3 products should become available between three weeks and two months after the actual observations; this data latency is the result of the dependency on the MERRA reanalysis. Version 4 and Version 5 Level 2 and Level 3 products are also available. See [Data Products](#) for descriptions of the different products. User's Guides available on the [Publications](#) page should be consulted before attempting to analyze the MOPITT products.

Uses Level 3 1x1 degree gridded data with downloadable KMZ for Google Earth

MOPITT PRODUCT VISUALIZATION

Global plots of MOPITT CO products at 1 degree horizontal resolution can be viewed for each day and month of the MOPITT mission.

V6 Plots

- V6 TIR-only [Daily Plots](#) / [Monthly Plots](#)
- V6 NIR-only [Daily Plots](#) / [Monthly Plots](#)
- V6 TIR/NIR [Daily Plots](#) / [Monthly Plots](#)

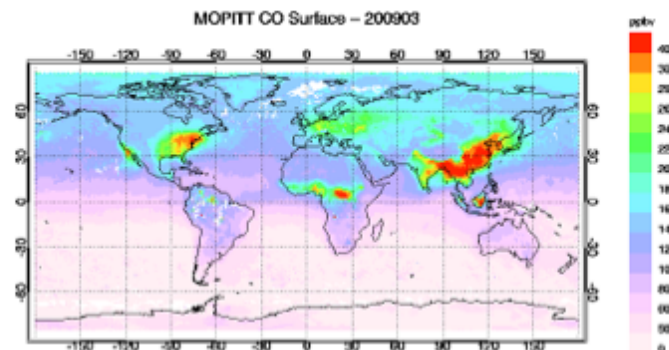
V5 Plots

- V5 TIR-only [Daily Plots](#) / [Monthly Plots](#)
- V5 NIR-only [Daily Plots](#) / [Monthly Plots](#)
- V5 TIR/NIR [Daily Plots](#) / [Monthly Plots](#)

V4 Plots

- V4 TIR-only [Daily Plots](#) / [Monthly Plots](#)

- Interactive Data Viewers for **V4**, **V5**, and **V6** MOPITT products



VISUALIZATION

QUICK-LOOK IMAGES

Global plots of MOPITT CO products at 1 degree horizontal resolution can be viewed for each day and month of the MOPITT mission. See the [News and Status](#) page for dates of, and reasons for, missing data.

V6 Plots

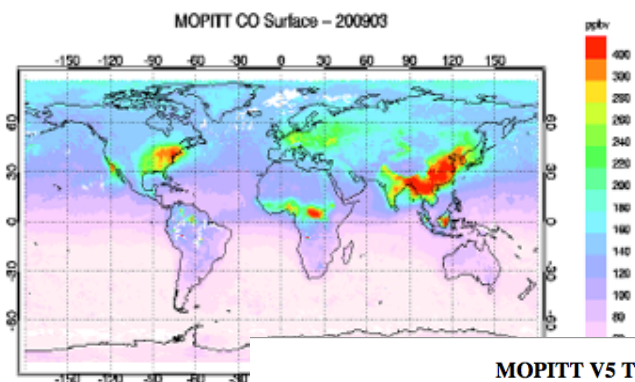
- V6 TIR-only [Daily Plots](#) / [Monthly Plots](#)
- V6 NIR-only [Daily Plots](#) / [Monthly Plots](#)
- V6 TIR/NIR [Daily Plots](#) / [Monthly Plots](#)

V5 Plots

- V5 TIR-only [Daily Plots](#) / [Monthly Plots](#)
- V5 NIR-only [Daily Plots](#) / [Monthly Plots](#)
- V5 TIR/NIR [Daily Plots](#) / [Monthly Plots](#)

V4 Plots

- V4 TIR-only [Daily Plots](#) / [Monthly Plots](#)



MOPITT V5 TIR/NIR Daytime CO Retrievals - Quick-look Images



[MOPITT Data page](#)
[Monthly Average Plots](#)

YEAR MONTH DAY LEVEL

2013 3 8

Column

[PLOT](#)
[PREVIOUS](#)
[NEXT](#)

MOPITT V5 TIR/NIR Daytime CO Retrievals - Quick-look Images

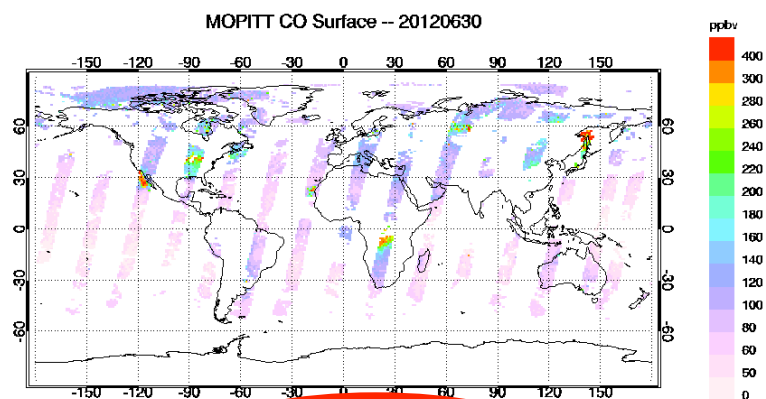


[MOPITT Data page](#)
[Monthly Average Plots](#)

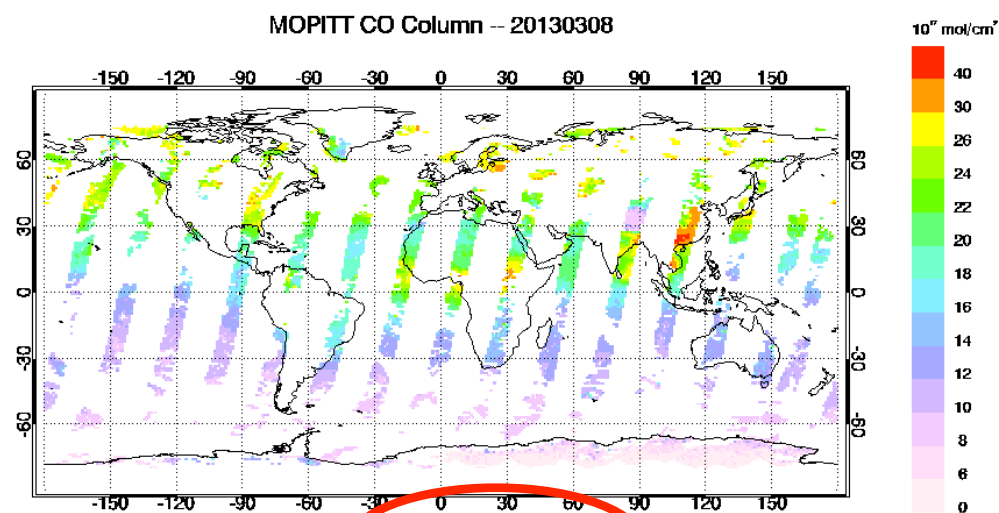
YEAR MONTH DAY LEVEL

2012 6 30 Surface

[PLOT](#)
[PREVIOUS](#)
[NEXT](#)



[MOPITT Google Earth File](#)



[MOPITT Google Earth File](#)



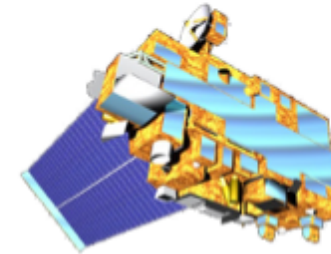
MOPITT now has an interactive visualizer

Homepage: <http://www.acd.ucar.edu/mopitt/>

MEASUREMENTS OF POLLUTION IN THE TROPOSPHERE (MOPITT)

THE MOPITT MISSION

MOPITT is an instrument flying on NASA's Earth Observing System **Terra** spacecraft, measuring tropospheric carbon monoxide (CO) on the global scale. MOPITT measurements enable scientists to analyze the distribution, transport, sources and sinks of CO, a trace gas produced by methane oxidation, fossil fuel consumption and biomass burning. MOPITT has been operational since March 2000.



MOPITT PRODUCT AVAILABILITY

MOPITT Version 6 Level 2 and Level 3 products are now available for the entire MOPITT mission. Generally, V6 Level 2 and Level 3 products should become available between three weeks and two months after the actual observations; this data latency is the result of the dependency on the MERRA reanalysis. Version 4 and Version 5 Level 2 and Level 3 products are also available. See [Data Products](#) for descriptions of the different products. User's Guides available on the [Publications](#) page should be consulted before attempting to analyze the MOPITT products.

- [NASA Data Archives via Reverb](#)
- [ASDC Data Pool](#)
- [ASDC MOPITT Subsetter \(V5 Level 2 Products only\)](#)

MOPITT PRODUCT VISUALIZATION

Global plots of MOPITT CO products at 1 degree horizontal resolution can be viewed for each day and month of the MOPITT mission.

V6 Plots

- V6 TIR-only [Daily Plots](#) / [Monthly Plots](#)
- V6 NIR-only [Daily Plots](#) / [Monthly Plots](#)
- V6 TIR/NIR [Daily Plots](#) / [Monthly Plots](#)

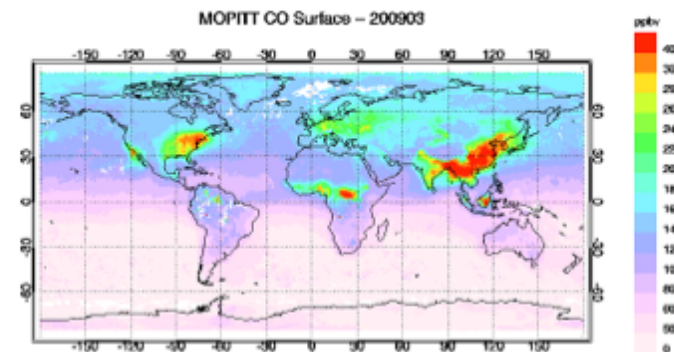
V5 Plots

- V5 TIR-only [Daily Plots](#) / [Monthly Plots](#)
- V5 NIR-only [Daily Plots](#) / [Monthly Plots](#)
- V5 TIR/NIR [Daily Plots](#) / [Monthly Plots](#)

V4 Plots

- V4 TIR-only [Daily Plots](#) / [Monthly Plots](#)

- [Interactive Data Viewers for V4, V5, and V6 MOPITT products](#)



Select file type: Level 2

Please select a MOP02.he5 file.

Path: /MOPITT/V6T/Archive/L2/201301 Filter: .he5

Directories:

- 0101
- 0102
- 0103
- 0104
- 0105
- 0106
- 0107
- 0108

Files:

Selected Files:

- MOP02T-20130109-L2V16.2.1.he5
- MOP02T-20130110-L2V16.2.1.he5

Add Remove

Reset Form Plot File(s)

Select file type: Level 2

Please select a MOP02.he5 file.

Path: /MOPITT/V6T/Archive/L2/201301/0111 Filter: .he5

Directories:

Files:

- MOP02T-20130111-L2V16.2.1.he5

Selected Files:

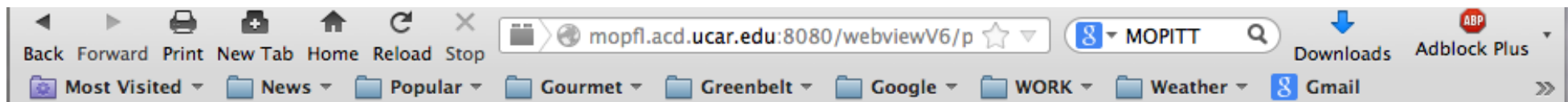
- MOP02T-20130109-L2V16.2.1.he5
- MOP02T-20130110-L2V16.2.1.he5

Add Remove

Reset Form Plot File(s)

- Select Level 2
- Under directories, you choose your year, month and days, click to add to the files window
- Click on the file and it will be added to the Selected files window.
- Click Plot files

MOPITT Interactive Data Viewer: <http://mopfl.acd.ucar.edu:8080/webviewV6/>

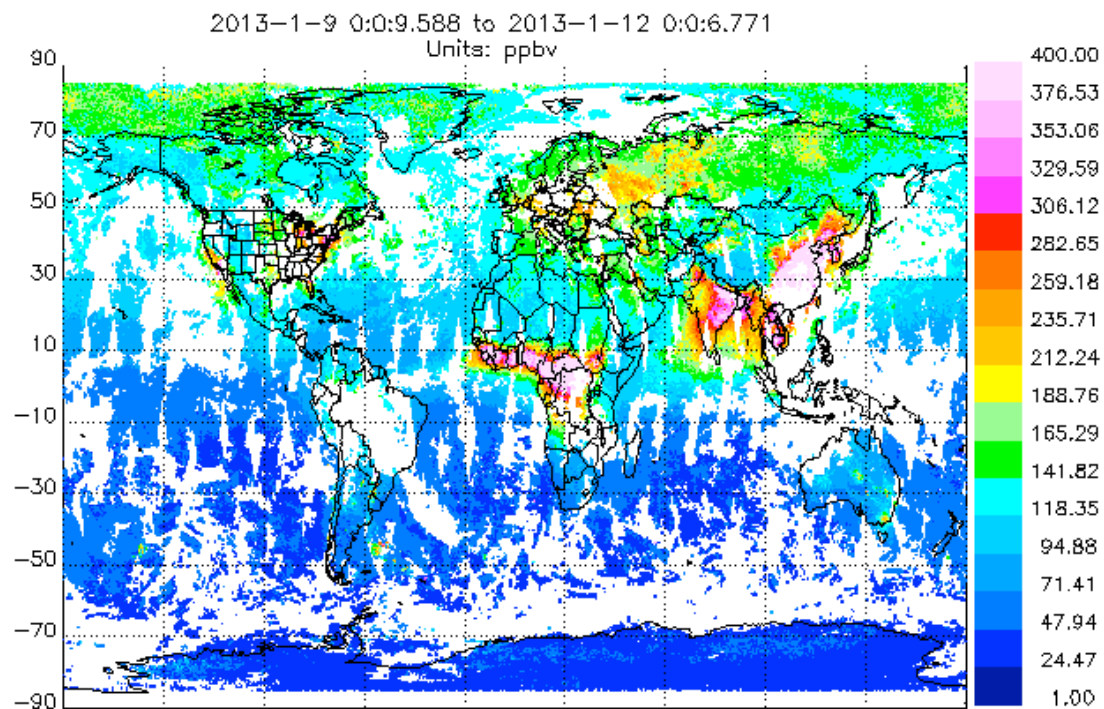


Current Files:

1. /MOPITT/V6T/Archive/L2/200006/0605/MOP02T-20000605-L2V16.2.1.he5
2. /MOPITT/V6T/Archive/L2/201306/0626/MOP02T-20130626-L2V16.2.1.he5

Select Level 2 variable to plot: RetrievedCOSurfaceMixingRatio							
Projection		Colorbar			Plot Options		
Cylindrical Equidistance		<input type="radio"/> Data Max to Min			<input type="checkbox"/> Filled Pixels		
		<input type="radio"/> High - Low			<input type="checkbox"/> Black Background		
		<input checked="" type="radio"/> User Defined			<input checked="" type="checkbox"/> Political Boundaries		
		Min: 50.00000 ppbv			Size: Medium		
		Max: 300.000 ppbv					
Time							
	Year	Month	Day	Hour	Minute	Second	Millisecond
Start	2013	6	26	0	0	16	897
End	2012	6	26	23	59	59	672

[Return to File Selection](#)[Reset Form](#)[Export ASCII File](#)[Plot](#)

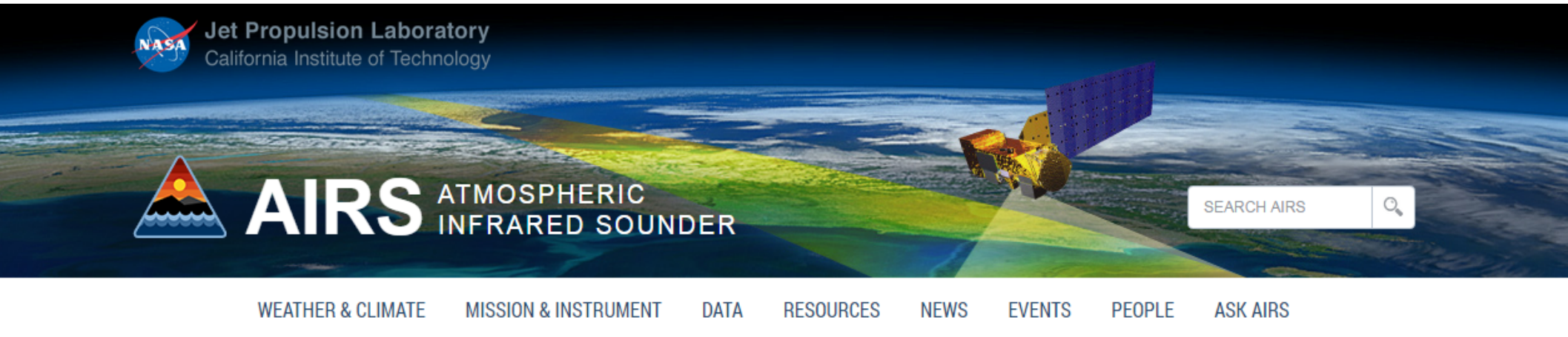


Current Files:

1. /MOPITT/V6T/Archive/L2/201301/0109/MOP02T-20130109-L2V16.2.1.he5
2. /MOPITT/V6T/Archive/L2/201301/0110/MOP02T-20130110-L2V16.2.1.he5
3. /MOPITT/V6T/Archive/L2/201301/0111/MOP02T-20130111-L2V16.2.1.he5

Select Level 2 variable to plot: RetrievedCOSurfaceMixingRatio			
Projection Cylindrical Equidistance	Colorbar <input type="radio"/> Data Max to Min <input type="radio"/> High - Low <input checked="" type="radio"/> User Defined Min: 1.00000 ppbv Max: 400.000 ppbv	Plot Options <input type="checkbox"/> Filled Pixels <input type="checkbox"/> Black Background <input checked="" type="checkbox"/> Political Boundaries Size: Medium	
Time Year Month Day Hour Minute Second Millisecond Start 2013 1 9 0 0 9 588 End 2013 1 12 0 0 6 771			
Return to File Selection	Reset Form	Export ASCII File	Plot

Access to AIRS data, documentation, and Imagery can be found in the AIRS homepage: <http://airs.jpl.nasa.gov/>



Weather and climate from space

EVENTS AND ANNOUNCEMENTS

- ▶ Register for the fall NASA Sounder Science Team Meeting
- ▶ Presentations from March 2014 Science Team Meeting now available
- ▶ AIRS data processed to Version 6

[+ more events](#)

AIRS DATA & PRODUCTS

- ▶ Products of Earth's atmosphere and surface
- ▶ Data product types
- ▶ Near real-time products
- ▶ Get AIRS data

[+ more about data & products](#)

https://airs.jpl.nasa.gov/data/get_data

[WEATHER & CLIMATE](#)[MISSION & INSTRUMENT](#)[DATA](#)[RESOURCES](#)[NEWS](#)[EVENTS](#)[PEOPLE](#)[ASK AIRS](#)

Data

[Get Data](#)[Data Products](#)[Physical Retrievals](#)[Skew-T plotting tool](#)[Version 6](#)[Near Real-Time Products](#)[Mailing List](#)[SHARE](#)[Recommend](#)[Tweet](#)[g+1](#)[Share](#)

Get AIRS Data

AIRS data is distributed by the NASA Goddard Earth Sciences Data Information and Services Center (DISC). At the DISC you will find information and tools designed to help you find the AIRS data you need.

[Version 6 Level 2 and Level 3 Data Products ›](#)

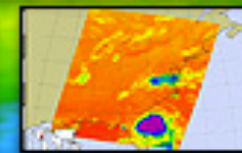
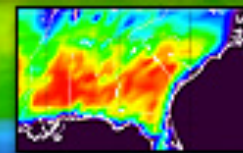
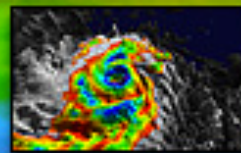
MORE

[Product Accuracies](#)[Data Readers](#)[Validation](#)[ATBDs](#)[Granule Maps](#)[Visualization Support](#)[Carbon Dioxide](#)[Earth Coverage](#)



AIRS

Atmospheric InfraRed Sounder



Product Information and access to AIRS data can be found here:
<http://disc.sci.gsfc.nasa.gov/AIRS/data-holdings/by-data-product-V6>

Take you to the **Mirador** search engine. There is the option to convert to NetCDF format

Goes to a product summary page with links to the Instrument and product documentation

Level 2 AIRS2RET and Level 3 AIRS3STD are the standards daily products

AIRS Level-2 Products (Version 5): without-HSB // AIRS IR-Only // with-HSB

Data Product	Description	Spatial Resolution	Temporal Coverage	Average Item Size (Mb)	GES DISC Data Access
AIRX2RET	L2 standard retrieval product using AIRS IR and AMSU, without-HSB	45 km @ nadir; 28 atm pressure levels; 14 pressure layers for H2O related variables...	2002-08-30 - present	2.3	Search
AIRS2RET	L2 standard retrieval product using AIRS IR-only	45 km @ nadir; 28 atm pressure levels; 14 pressure layers for H2O related variables...	2007-05-31 - present	2.3	Search
AIRH2RET	L2 standard retrieval using AIRS IR and AMSU, with-HSB	45 km @ nadir; 28 atm pressure levels; 14 pressure layers for H2O related variables...	2002-08-30 - 2003-02-05	2.3	Search

AIRS Level-3 Products (Version 5): without-HSB // AIRS IR Only // with-HSB

Data Product	Description	Spatial Resolution	Temporal Coverage	Average Item Size(Mb)	GES DISC Data Access
AIRX3STD	L3 daily gridded standard retrieval product using AIRS IR and AMSU, without-HSB	1°x1°; 24 atm pressure levels; 12 pressure levels for H2O related variables.	2002-08-30 - present	71	Search
AIRS3STD	L3 daily gridded standard retrieval product using AIRS IR-only	1°x1°; 24 atm pressure levels; 12 pressure levels for H2O related variables.	2007-06-01 - present	54	Search
AIRH3STD	L3 daily gridded standard retrieval product using AIRS IR and AMSU, with-HSB	1°x1°; 24 atm pressure levels; 12 pressure levels for H2O related variables.	2002-08-30 - 2003-02-05	75	Search

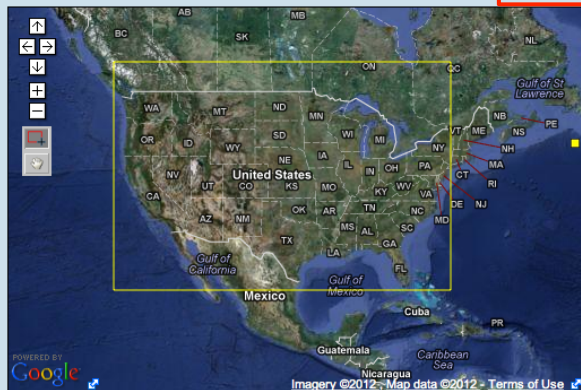
You are here: [Keyword Search](#)

Keyword Projects Science A

Keyword: AIRS2RET Time Span: 2012-07-04 To: 2012-07-04

Location: (24.69,-126.04),(51.94,-73.6) Update Map

Search GES-DISC



Advanced Search

Keyword Projects Science Areas

Results 1 - 1 of 1 for AIRS2RET (1 seconds)

Data Sets

More Services (e.g. http download, format conversion, subsets etc) are available for the data set(s). Whenever you add files to the shopping cart, you will be presented with options for selecting a service and service parameters for any data set which has these services.

☒ AIRS/Aqua Level 2 Standard physical retrieval (AIRS-only) (AIRS2RET)[View Files](#) [Info](#) [Data Calendar](#)

Approx. 16 files found (Avg Size: 2.075 MB)

Parameters: SKIN TEMPERATURE, SURFACE AIR TEMPERATURE, AIR TEMPERATURE, TROPOPAUSE, PRECIPITABLE WATER, WATER VAPOR, OXYGEN COMPOUNDS

Spatial Resolution: 50 km x 50 km

Temporal Resolution: 6 Minutes

[Select All](#) [Reset](#) [List Selected Files By Time](#) [See Timeline View](#) [Add Selected Files To Cart](#)

NASA Search Results
(Number of files found may not be entirely accurate)
Page: 1

<input type="checkbox"/> Select All in Page	Start Time
<input type="checkbox"/> AIRS.2012.07.04.214.L2.RetStd_IR.v5.0.14.0.G12187114452.hdf (2.06 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 21:23:23 (Day) Metadata
<input type="checkbox"/> AIRS.2012.07.04.213.L2.RetStd_IR.v5.0.14.0.G12187114451.hdf (2.05 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 21:17:23 (Day) Metadata
<input type="checkbox"/> AIRS.2012.07.04.212.L2.RetStd_IR.v5.0.14.0.G12187114454.hdf (2.05 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 21:11:23 (Day) Metadata
<input type="checkbox"/> AIRS.2012.07.04.197.L2.RetStd_IR.v5.0.14.0.G12187114418.hdf (2.07 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 19:41:23 (Day) Metadata
<input type="checkbox"/> AIRS.2012.07.04.196.L2.RetStd_IR.v5.0.14.0.G12187114402.hdf (2.12 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 19:35:23 (Day) Metadata
<input type="checkbox"/> AIRS.2012.07.04.181.L2.RetStd_IR.v5.0.14.0.G12187114340.hdf (2.13 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 18:05:23 (Day) Metadata
<input type="checkbox"/> AIRS.2012.07.04.180.L2.RetStd_IR.v5.0.14.0.G12187114355.hdf (2.10 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 17:59:23 (Day) Metadata
<input type="checkbox"/> AIRS.2012.07.04.179.L2.RetStd_IR.v5.0.14.0.G12187114334.hdf (2.15 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 17:53:23 (Day) Metadata
<input type="checkbox"/> AIRS.2012.07.04.164.L2.RetStd_IR.v5.0.14.0.G12187113502.hdf (2.06 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 16:23:23 (Day) Metadata
<input type="checkbox"/> AIRS.2012.07.04.118.L2.RetStd_IR.v5.0.14.0.G12187103555.hdf (1.95 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 11:47:23 (Both) Metadata
<input type="checkbox"/> AIRS.2012.07.04.103.L2.RetStd_IR.v5.0.14.0.G12187113355.hdf (2.06 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 10:17:23 (Night) Metadata
<input type="checkbox"/> AIRS.2012.07.04.102.L2.RetStd_IR.v5.0.14.0.G12187113353.hdf (2.04 MB) One Click Download: HDF (Quality Screened) HDF (FTP) HDF (HTTP) NetCDF OPeNDAP	2012-07-04 10:11:23 (Night) Metadata

Access to AIRS NRT Trace Gas Products

AIRS NRT Products and Images Website:

<http://disc.sci.gsfc.nasa.gov/nrt/data-holdings/airs-nrt-products/>

There is a **Near-Real Time (NRT)** product that exports KMZ files but is available for data going back 9 days only. This product is great for capturing events **as they happen!**

NRT Level 2 data, PNG, GeoTIFF, and KMZ files are available at this site. **BUT historic data is not available.**

The screenshot shows a web browser window displaying the AIRS NRT Products and Images website. The browser's address bar shows the URL: <http://disc.sci.gsfc.nasa.gov/nrt/data-holdings/airs-nrt-products/airs-nrt-products#D>. The website header includes the NASA logo, the text "GES DISC Goddard Earth Sciences Data and Information Services Center", and a search bar labeled "Search GES DISC Advanced Search". Below the header, there are navigation tabs: "GES DISC Home", "Data Services", "Science Portals", and "Mission Portals". Under "Data Services", there are links: "Analyze Data with Giovanni", "Search for Data with Mirador", "Simple Subset Wizard", and "More...". A section titled "Near Realtime Data" features three thumbnail images labeled "CO", "SO₂", and "Visible". On the left side, there is a sidebar with a red "DATA HOLDINGS" button, a link to "AIRS NRT Products + MLS NRT Products", a "DOCUMENTATION" button, and an "Additional Features" section with links for "News", "FAQ", and "Links". The main content area shows the breadcrumb "You are here: GES DISC Home > Near Real Time Data > Data Holdings > AIRS NRT Products" followed by the title "AIRS NRT Products and Images". A yellow banner with a warning icon contains the text: "IMPORTANT MESSAGE Aug 09, 2012 LANCE-AIRS Near-Real Time Due to a Aqua maneuver, There is gaps in the AIRS NRT data starting from 2012-08-09 14:53:22 - 16:53:23." Below this, it says "Here you can find information and links to:" followed by a numbered list: "1. AIRS Near-Real-Time (NRT) Data Products", "2. AIRS NRT Images", and "3. AIRS NRT MapViewer".

AIRS NRT Products and Images Website:

<http://disc.sci.gsfc.nasa.gov/nrt/data-holdings/airs-nrt-products/>

To get KMZ files for Google Earth:

1. click on “2. AIRS NRT Images”
2. Click on where it says ‘KMZ’

AIRS NRT Products and Images — GES DISC: Goddard Earth Sciences, Data & Information Services Center

<http://disc.sci.gsfc.nasa.gov/nrt/data-holdings/airs-nrt-products/airs-nrt-products#KI> Google

Wikipedia Gourmet Greenbelt News Popular SSAI Weather Google Gmail Dictionary.com SEACIONS WORK

Gmail: Email... Google Cale... DOCUMENT... Inbox - Out... L2 Cloud-C... Untitled Near Realti... NRT Produc... NRT Produc...

2.3. KMZ, the compressed Keyhole Markup Language (KML)

KML is an XML-based language schema for expressing geographic annotation and visualization on existing or future Internet-based, two-dimensional maps and three-dimensional Earth browsers, like GoogleEarth. We link here to the **KMZ** - the compressed version of KML - because browsers can attempt to open KML as plain XML file, whereas our goal is to view global imagery, through [GoogleEarth](#), or other relevant browser. An important distinction in this approach is that one file can contain multiple images ("Places") that can be overlaid for simultaneous three-dimensional views. The KMZ below can be easily combined and overlaid in various ways, using for instance GoggleEarth's "Places" and "Layers" folders.

You must have [GoogleEarth](#) (or other appropriate tool) installed on your computer to view the **KMZ** as images.

KMZ Format

RGB* (Visible 3-km)	Today	Yesterday	-2 Days	-3 Days	-4 Days	-5 Days	-6 Days	-7 Days	-8 Days	-9 Days
IR_Precip_Est	Today	Yesterday	-2 Days	-3 Days	-4 Days	-5 Days	-6 Days	-7 Days	-8 Days	-9 Days
BT_diff_SO2	Today	Yesterday	-2 Days	-3 Days	-4 Days	-5 Days	-6 Days	-7 Days	-8 Days	-9 Days
Prata_SO2	Today	Yesterday	-2 Days	-3 Days	-4 Days	-5 Days	-6 Days	-7 Days	-8 Days	-9 Days
CO	Today	Yesterday	-2 Days	-3 Days	-4 Days	-5 Days	-6 Days	-7 Days	-8 Days	-9 Days
Dust Score	Today	Yesterday	-2 Days	-3 Days	-4 Days	-5 Days	-6 Days	-7 Days	-8 Days	-9 Days

*Note:

- AIRS NRT imagery is broken into tiles that are seamlessly served as one image, to speed up regional viewing. Even though the Visible false color RGB are broken into tiles too, their global coverage at 3-km resolution still makes the tiles very big. Please, allow more time the RGB image to refresh in your application.
- The **Prata_SO2** images are generated by an algorithm authored by [Fred Prata](#), Norwegian Institute for Air Research.

Note: These NRT data are in parts per billion
A = Ascending (daytime) and D = Descending (nighttime) are included.

